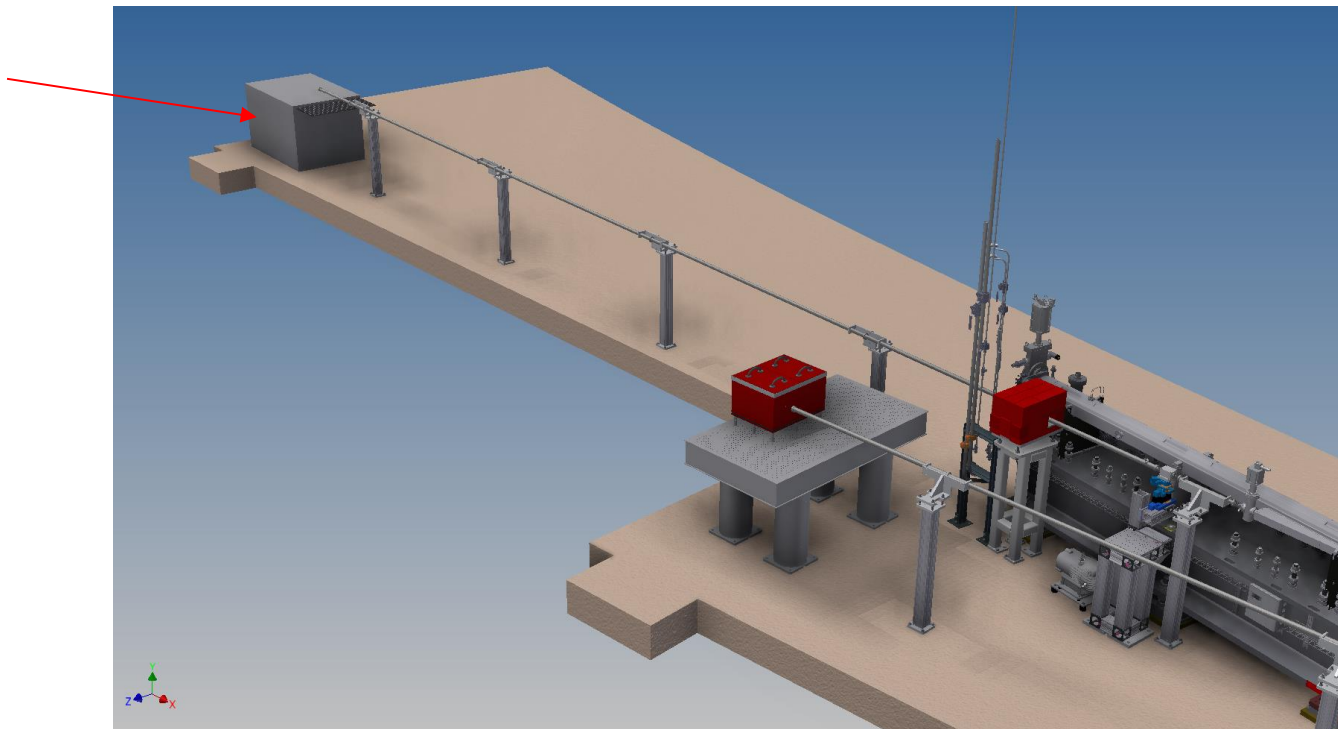


Cell 22 R&D endstation

D. Peter Siddons

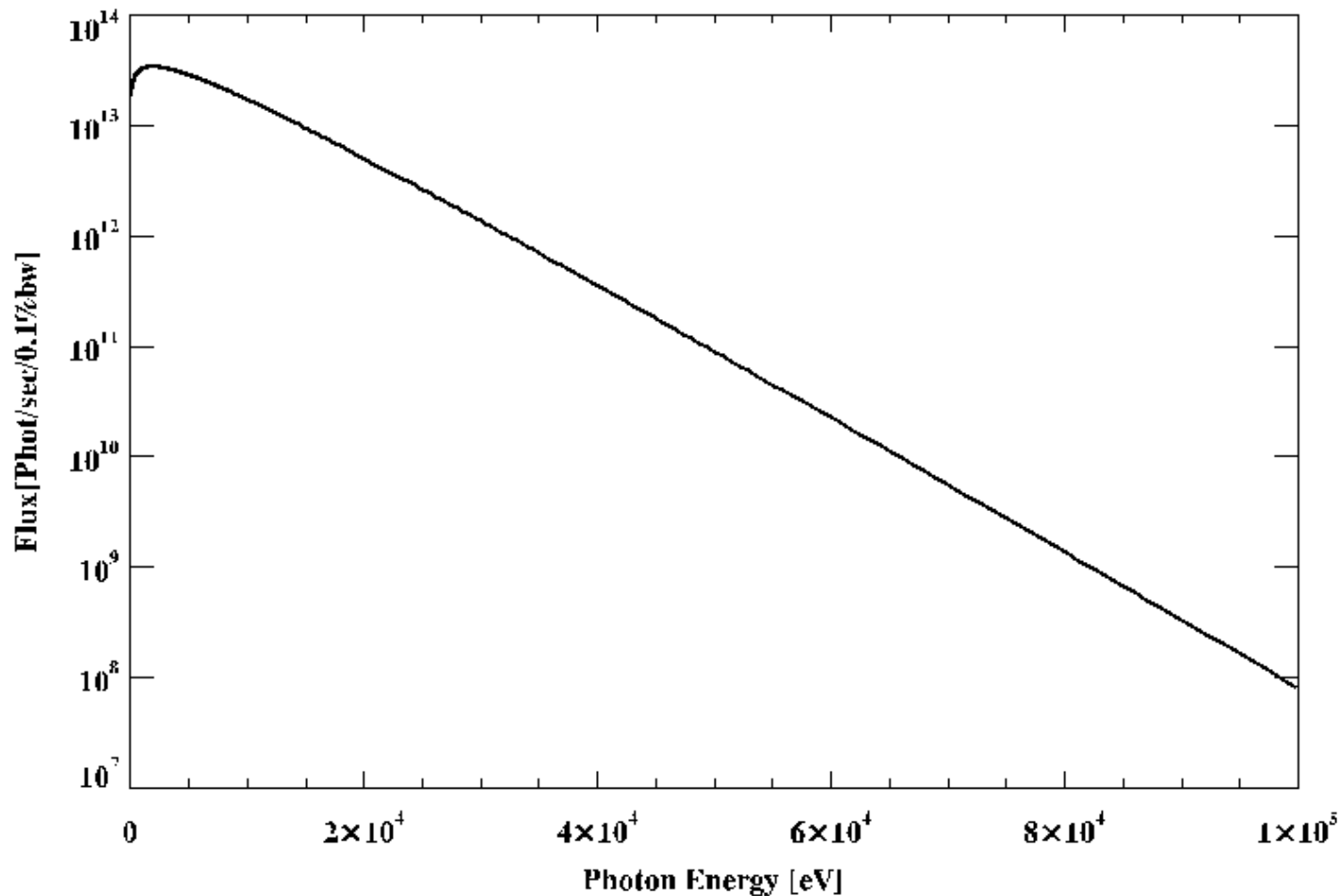
Beamline layout

- 3PW radiation exits the ring via a water-cooled diamond window. The window allows a 1mm wide fan to exit the wiggler chamber. Since it is located 1m from the source, it provides 1 mrad of radiation.
- The beam is transported through a chamber which contains the pinhole assembly for the Diagnostics endstation, and into a rough-vacuum pipe, terminating in another diamond window just upstream of the Diagnostics endstation enclosure. The beam traverses this housing, emerging downstream of the enclosure.
- The remainder of the endstation is intended to support a wide range of equipment configurations in the future. Currently, it consists of a fluorescent screen and a webcam to support the verification of full beam being available at the endstation.



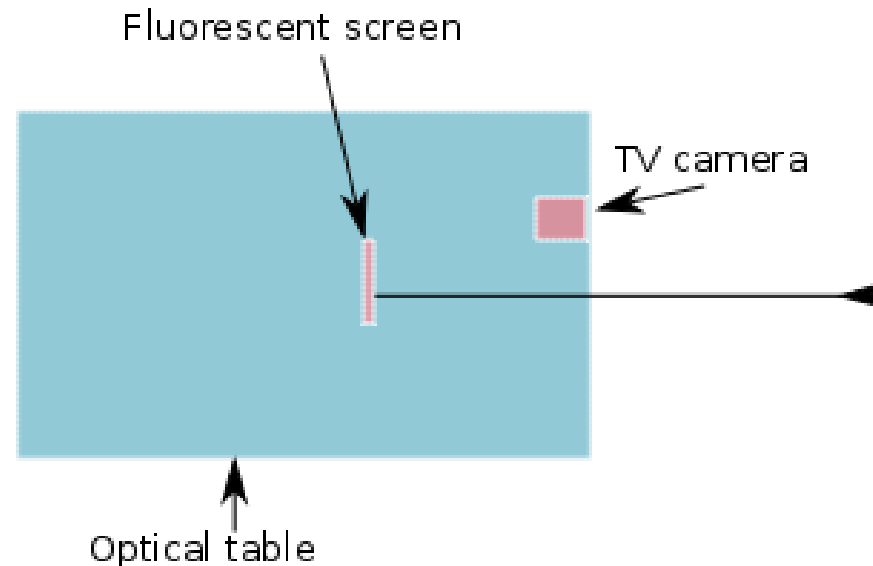
3PW spectrum

- . The 3PW provides useful intensities for detector test experiments up to 100keV
- . For such experiments, only modest intensities are required.



Endstation layout

- Schematic layout of commissioning components
- Optical table has three motorized vertical jacks, providing height adjustment plus roll and pitch motions.
- Two more motions provide horizontal motion in the plane of the floor, plus yaw.
- The TV camera is mounted ~1m above beam height, looking downstream. It has pan / tilt / zoom capability.
- The fluorescent screen is deposited on a large finned heatsink.



Commissioning

The commissioning of the endstation consists of verifying that the beam can traverse the Diagnostic Group's equipment and arrive at the R&D endstation intact. This will be achieved simply by observing light from the fluorescent screen mounted on the optical table, observed by a webcam also mounted on the optical table.

Science experiments

Configuration of individual experiment equipment will be the subject of an Experimental Safety Approval form for each experiment. A typical setup might be as shown below.

